UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

DEC 1 3 1995

Mr. John Bartholomeo
U. S. Army Corp of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3396

Re: Quebecor Printing Atglen Incorporated
RCRA CMI Design Review
Cost Estimate

Dear Mr. Bartholomeo:

Attached is a scope of work for the review of the Corrective Measures Implementation design for the above-referenced facility. Please provide your cost estimate to complete the project. If you have any questions, please contact me at (215) 597-2381.

Sincerely,

Vernon Butler, RPM
RCRA Operations Branch

Attachment

cc: B. Greaves, EPA
P. Gotthold, EPA
D. Saunders, EPA

Attachment

STATEMENT OF WORK

Quebecor Printing Atglen Incorporated("Quebecor")
W. Sadsbury, PA

1. Introduction

A. Background

Since 1990, Quebecor has operated a 15-acre printing plant on its 57-acre site located in West Sadsbury Township, Chester County, Pennsylvania. Quebecor prints color newspaper supplements using the rotogravure method. The facility includes printing process machinery, ink and solvent storage tanks and drum storage areas, warehousing, and administrative offices. Quebecor operates a wastewater treatment plant at the Facility. This wastewater treatment plant is subject to the permitting requirements of the Clean Water Act and its National Pollutant Discharge Elimination System("NPDES") regulations. Parade Magazine ("Parade") owned the Facility under the name Diversified Printing Corporation from 1970 until June 1987. Maxwell Communication Corporation ("Maxwell") owned the Facility from June 1987 until February 1990. Quebecor Printing Atglen Incorporated purchased the Facility in 1990 from Maxwell.

B. Waste Management

Pursuant to the requirements of RCRA, in 1980, Parade notified EPA of its status as a treatment, storage and disposal facility managing RCRA ignitable (D001) and corrosive (D002) wastes. In 1983, Parade requested that its status be changed to RCRA generator only, and that EPA "withdraw its status as a treatment, storage and disposal facility". In 1987, Maxwell renotified EPA of its generator status and notified EPA that it was storing hazardous waste from non-specific sources, F002, F003, and F005 for less than ninety days.

C. Releases/Spills

From 1985 until 1992, Quebecor or its predecessors conducted investigations of releases of approximately various quantities of Lactol, a commercial organic printing solvent containing toluene-xylene organic compounds, from above and underground storage tank system at the facility. The environmental investigations revealed the presence of benzene, toluene, ethylbenzene, xylene, tetrachloroethylene, and bis(2-ethylhexyl)phthalate in soil and groundwater at the site. Remediation measures began in this area in 1986 under PADER direction.

D. Interim Measures Release

On October 31, 1993, Quebecor reported an additional 2,800 gallon spill of toluene in the UST area. Quebecor has begun remediating this area in accordance with the following PADER approved remediation workplans: May 19, 1994 UST Closure Workplan; July 7, 1994 UST Removal Sampling Plan; July 12, 1994 UST Closure Notification; and July 12, 1994 PADER letter approving the modified UST Removal Sampling Plan. The PADER-approved workplans provide for the excavation of all USTs and associated soil and debris. EPA has coordinated the RFI and CMS activities with PADER UST Closure activities. Following completion of the tank closure procedures, EPA will direct remediation of this release under the November 21, 1995 EPA call for Interim Measures action under the March 1993 Order.

E. Corrective Measures

In its CMS Report, Quebecor evaluated corrective measure alternatives for effective reduction of the BTEX constituents in the soils and groundwater at its Facility. On November 29, 1994, EPA presented its preliminary decision for remediation of the facility in the document, Statement of Basis. In February 1996, EPA will amend the March 1991 Order to incorporate additional work and require the design and implementation of the corrective measure alternative chosen by EPA for soil and groundwater remediation at the Facility.

2. Description of Tasks and Deliverables

A. Quebecor will submitted 50%, 90%, and 100% draft and final Corrective Measures Implementation Design Reports to complete the following:

SOIL

1). UNDERGROUND STORAGE TANK AREA

UST removal/soil excavation sampling and analysis plan which will demonstrate attainment of soil clean-up standards.

2). RAILROAD SIDING AREA

In-situ Soil Vapor Extraction Remediation System and volatilized gas treatment with granulated activated carbon and/or incineration.

GROUNDWATER

1). Facilitywide groundwater pump and treat system for contaminated groundwater utilizing air stripping with granulated activated carbon filters and/or incineration for the exhaust gases in accordance with the Clean Air Act;

2). Facilitywide discharge system for the treated groundwater in accordance with the Clean Water Act National Pollutant Discharge Elimination System.

INSTITUTIONAL CONTROLS

1). Deed restrictions to prevent the installation of on-site drinking water wells.

2). Periodic monitoring and reporting of data to track compliance with soil and groundwater clean up standards.

B. United States Army Corp of Engineers("USACE") shall provide an engineering review of the above documents and provide comments. USACE shall evaluate the long term effects of this remediation and whether there is sufficient constraints (monitoring points) in place to ensure the goals of the remediation are met.

3. Schedule

All comments shall be forwarded to EPA within 45 days of receipt unless otherwise specified.

Attachment A

INTERIM MEASURES
SCOPE OF WORK

PURPOSE

The purpose of Interim Measures are to identify and correct any actual or potential releases of hazardous waste or constituents from regulated units, solid waste management units, and other sources or areas at the facility which may present an endangerment to human health or the environment.

SCOPE

AW TASKS The Interim Measures consist of five tasks:

TASK I: INTERIM MEASURES WORKPLAN

I, A — A. Interim Measures Objectives
I, C — B. Community Relations Plan

TASK II: INTERIM MEASURES INVESTIGATION PROGRAM

I, B, 1-4 — A. Data Collection Quality Assurance Plan
I, B, 5 — B. Data Management Plan

TASK III: INTERIM MEASURES DESIGN PROGRAM

II, A — A. Design Plans and Specifications
II, D — B. Operation and Maintenance Plan
I, A, 10 — C. Project Schedule
II, E, 2 — D. Final Design Documents

TASK IV. INTERIM MEASURES CONSTRUCTION QUALITY ASSURANCE PLAN

I, A — A. Construction Quality Assurance Objectives
III, A-B — B. Inspection Activities
I, B, 2-3 — C. Sampling Requirements
III, C — D. Documentation

TASK V. REPORTS

V, A — A. Progress
V, B — B. Interim Measures Workplan
V, E — C. Final Design Documents
V, F — D. Draft Interim Measures Report
V, F — E. Final Interim Measures Report

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TASK I: INTERIM MEASURES WORKPLAN

Respondent shall prepare an Interim Measures Workplan. The workplan shall include the development of several plans which shall be prepared concurrently.

I, A A. Interim Measures Objectives

The workplan shall specify the objectives of the interim measures, demonstrate how the interim measures will abate releases and threatened releases, and, to the extent possible, be consistent and integrated with any long term solution at the facility. The Interim Measures Workplan will include a discussion of the technical approach, engineering design, engineering plans, schedules, budget, and personnel. The Workplan will also include a description of qualifications of personnel performing or directing the interim measures, including contractor personnel. This plan shall also document the overall management approach to the interim measures.

I, C B. Community Relations Plan

Respondent shall prepare a plan for the dissemination of information to the public regarding interim measure activities and results. These activities shall include the preparation and distribution of fact sheets and participation in public meetings.

TASK II: INTERIM MEASURES INVESTIGATION PROGRAM

I, B, 1-4 A. Data Collection Quality Assurance Plan

The Respondent shall prepare a plan to document all monitoring procedures: sampling, field measurements, and sample analysis performed during the investigation to characterize the source and contamination, so as to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented.

1. Data Collection Strategy

The strategy section of the Data Collection Quality Assurance Plan shall include, but not be limited to, the following:

a. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

b. Description of methods and procedures to be used

to assess the precision, accuracy, and completeness of the measurement data;

c. Description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition. Examples of factors which shall be considered and discussed include:

i) Environmental conditions at the time of sampling;

ii) Number of sampling points;

iii) Representativeness of selected media; and

iv) Representativeness of selected analytical parameters.

d. Description of the measures to be taken to assure that the following data sets can be compared to each other:

i) Data generated by the Respondent over some time period;

ii) Data generated by an outside laboratory or consultant versus data generated by the Respondent;

iii) Data generated by separate consultants or laboratories; and

iv) Data generated by an outside consultant or laboratory over some time period.

e. Details relating to the schedule and information to be provided in quality assurance reports. The reports should include, but not be limited to:

i) Periodic assessment of measurement data accuracy; precision, and completeness;

ii) Results of performance audits;

iii) Results of system audits;

iv) Significant quality assurance problems and recommended solutions; and

v) Resolutions of previously stated problems.

2. Sampling and Field Measurements

The Sampling and Field Measurements section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate sampling and field measurement locations, depths, etc.;

b. Providing a statistically sufficient number of sampling and field measurement sites;

c. Measuring all necessary ancillary data;

d. Determining which media are to be sampled (e.g., ground water, soil, sediment, etc.);

e. Determining which parameters are to be measured and where;

f. Selecting the frequency of sampling and field measurement and the length of sampling period;

g. Selecting the types of sample (e.g., composites vs. grabs) and the number of samples to be collected;

h. Documenting field sampling and field measurement operations and procedures, including;

i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters and adsorbing reagents);

ii) Procedures and forms for recording the exact location and specific considerations associated with sample and field measurement data acquisition;

iii) Documentation of specific sample preservation method;

iv) Calibration of field devices;

v) Collection of replicate samples;

vi) Submission of field-biased blanks, where

appropriate;

vii) Potential interferences present at the facility;

viii) Construction materials and techniques, associated with monitoring wells and piezometers;

ix) Field equipment listing and sample containers;

x) Sampling and field measurement order; and

xi) Decontamination procedures.

i. Selecting appropriate sample containers;

j. Sample preservation; and

k. Chain-of-custody, including:

i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and

ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

a. Chain-of-custody procedures, including:

i) Identification of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

iii) Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b. Sample storage and holding times;

c. Sample preparation methods;

d. Analytical procedures, including:

i) Scope and application of the procedure;

ii) Sample matrix;

iii) Potential interferences;

iv) Precision and accuracy of the methodology; and

v) Method detection limits.

e. Calibration procedures and frequency;

f. Data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:

i) Method blank(s);

ii) Laboratory control sample(s);

iii) Calibration check sample(s);

iv) Replicate sample(s);

v) Matrix-spiked sample(s);

vi) "Blind" quality control sample(s);

vii) Control charts;

viii) Surrogate samples;

ix) Zero and span gases; and

x) Reagent quality control checks.

A performance audit may be conducted by EPA on the laboratories selected by the Respondent.

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h. Preventive maintenance procedures and schedules;

i. Corrective action (for laboratory problems); and

j. Turnaround time.

I, B, 5 B. Data Management Plan

The Respondent shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

a. Unique sample or field measurement code;

b. Sampling or field measurement location and sample or measurement type;

c. Sampling or field measurement raw data;

d. Laboratory analysis ID number;

e. Property or component measured; and

f. Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

a. Unsorted (raw) data;

b. Results for each medium, or for each constituent monitored;

c. Data reduction for numerical analysis;

d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

AW TASKS

e. Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

a. Display sampling location and sampling grid;

b. Indicate boundaries of sampling area, and areas where more data are required;

c. Display levels of contamination at each sampling location;

d. Display geographical extent of contamination;

e. Display contamination levels, averages, and maxima;

f. Illustrate changes in concentration in relation to distance from the source, time, depth, or other parameters; and

g. Indicate features affecting intramedia transport and show potential receptors.

TASK III: INTERIM MEASURES DESIGN PROGRAM

II, A

A. Design Plans and Specifications

Respondent shall develop clear and comprehensive design plans and specifications which include, but are not limited to, the following:

1. Discussion of the design strategy and the design basis, including:

a. Compliance with all applicable or relevant environmental and public health standards; and

b. Minimization of environmental and public impacts.

2. Discussion of the technical factors of importance, including:

a. Use of currently accepted environmental control measures and technology;

b. The constructability of the design; and

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c. Use of currently acceptable construction practices and techniques.

3. Description of assumptions made and detailed justification of these assumptions;

4. Discussion of the possible sources of error and references to possible operation and maintenance problems;

5. Detailed drawings of the proposed design, including:

   a. Qualitative flow sheets;

   b. Quantitative flow sheets;

   c. Facility layouts;

   d. Utility locations.

6. Tables listing materials, equipment, and specifications;

7. Tables giving material balances; and

8. Appendices, including:

   a. Sample calculations (one example presented and explained clearly for a significant or unique design calculation);

   b. Derivation of equations essential to understanding the report; and

   c. Results of laboratory or field tests.

General correlation between drawings and technical specifications, is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, Respondent shall coordinate and cross-check the specifications and drawings and complete the proofing of the edited specifications and required cross-checking of all drawings and specifications.

II, D B. Operation and Maintenance Plan

Respondent shall prepare an Operation and Maintenance Plan to cover both implementation and long term maintenance of the interim measure(s). The plan shall be composed of the following elements:

1. Equipment start-up and operator training;

Respondent shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, startup, and operation of the treatment systems, and training covering appropriate operational procedures once the startup has been accomplished successfully.

2. Description of normal operation and maintenance (O&M), including:

   a. Description of tasks for operation;

   b. Description of tasks for maintenance;

   c. Description of prescribed treatment or operation conditions;

   d. Schedule showing frequency of each O&M task; and

   e. Common and/or anticipated remedies.

3. Description of routine monitoring and laboratory testing, including:

   a. Description of monitoring tasks;

   b. Description of required laboratory tests and their interpretation;

   c. Required QA/QC; and

   d. Schedule of monitoring frequency and date, if appropriate, when monitoring may cease.

4. Description of equipment, including:

   a. Equipment identification;

   b. Installation of monitoring components;

   c. Maintenance of site equipment; and

   d. Replacement schedule for equipment and installed components.

5. Records and reporting mechanisms required, including:

   a. Daily operating logs;

   b. Laboratory records;

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c. Mechanism for reporting emergencies;

d. Personnel and maintenance records; and

e. Monthly/annual reports to Federal/state agencies.

The Operation and Maintenance Plan shall be submitted with the Final Design Documents.

I, A, 10 C. Project Schedule

Respondent shall develop a detailed Project Schedule for construction and implementation of the interim measure(s) which identifies timing for initiation and completion of all critical path tasks. Respondent shall specifically identify dates for completion of the project and major interim milestones which are enforceable terms of this order. A Project Schedule shall be submitted simultaneously with the Final Design Documents.

II, E, 2 D. Final Design Documents

The Final Design Documents shall consist of the Final Design Plans and Specifications (100% complete), the Final Draft Operation and Maintenance Plan, and the Project Schedule. Respondent shall submit the final documents, 100% complete, with reproducible drawings and specifications. The quality of the design documents should be such that Respondent would be able to include them in a bid package and invite contractors to submit bids for the construction project.

TASK IV: INTERIM MEASURES CONSTRUCTION QUALITY ASSURANCE PLAN

I, A A. Construction Quality Assurance Objectives

In the CQA plan, Respondent shall identify and document the objectives and framework for the development of a construction quality assurance program including, but not limited to the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; and documentation. The responsibility and authority of all organizations (i.e., technical consultants, construction firms, etc.) and key personnel involved in the construction of the interim measures shall be described fully in the CQA plan. Respondent must identify a CQA officer and the necessary supporting inspection staff.

III, A-B B. Inspection Activities

The observations and tests that will be used to monitor the construction and/or installation of the components of the interim measure(s) shall be summarized in the CQA plan. The

plan shall include the scope and frequency of each type of inspection. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspection should also ensure compliance with all health and safety procedures. In addition to oversight inspections, Respondent shall conduct the following activities:

1. Preconstruction inspection and meeting;

   Respondent shall conduct a preconstruction inspection and meeting to:

   a. Review methods for documenting and reporting inspection data;

   b. Review methods for distributing and storing documents and reports;

   c. Review work area security and safety protocol;

   d. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and

   e. Conduct a site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

   The preconstruction inspection and meeting shall be documented by a designated person and minutes should be transmitted to all parties.

2. Prefinal inspection;

   Upon preliminary project completion, Respondent shall notify EPA for the purposes of conducting a prefinal inspection. The prefinal inspection will consist of a walk-through inspection of the entire project site. The inspection is to determine whether the project is complete and consistent with the contract documents and with the EPA approved interim measure(s). Any outstanding construction items discovered during the inspection will be identified and noted. Additionally, treatment equipment will be operationally tested by Respondent. Respondent will certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed. The prefinal

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inspection report should outline the outstanding construction items, actions required to resolve items, completion date for these items, and date for final inspection.

3. Final inspection;

Upon completion of any outstanding construction items, Respondent shall notify EPA for the purposes of conducting a final inspection. The final inspection will consist of a walk-through inspection of the project site. The prefinal inspection report will be used as a checklist with the final inspection focusing on the outstanding construction items identified in the pre-final inspection. Confirmation shall be made that outstanding items have been resolved.

I, B, 2-3 C. Sampling Requirements

The sampling and testing activities, sample size, sample and test locations, frequency of testing, acceptance and rejection criteria, and plans for correcting problems should be presented in the CQA plan.

III, C D. Documentation

Reporting requirements for CQA activities shall be described in detail in the CQA plan. This plan shall include such items as daily summary reports, inspection data sheets, problem identification and interim measures reports, design acceptance reports, and final documentation. Provisions for the final storage of all records shall be presented in the CQA plan.

TASK V: REPORTS

V, A A. Progress

Respondent shall at a minimum provide the EPA with signed, bimonthly progress reports containing:

1. A description and estimate of the percentage of the interim measures completed;

2. Summaries of all findings;

3. Summaries of all changes made in the interim measures during the reporting period;

4. Summaries of all contacts with representative of the local community, public interest groups, or state government during the reporting period;

5. Summaries of all problems or potential problems encountered during the reporting period;

6. Actions being taken to rectify problems;

7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and

9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

V, B B. Interim Measures Workplan

Respondent shall submit an Interim Measures Workplan as described in this Attachment.

V, E C. Final Design Documents

Respondent shall submit the Final Design Documents as described in this Attachment.

V, F D. Draft Interim Measures Report

At the "completion" of the construction of the project (except for long term operation, maintenance, and monitoring), Respondent shall submit an Interim Measures Implementation Report to the Agency. The Report shall document that the project is consistent with the design specifications and that the interim measures are performing adequately. The Report shall include, but not be limited to the following elements:

1. Synopsis of the interim measures and certification of the design and construction;

2. Explanation of any modifications to the plans and why these were necessary for the project;

3. Listing of the criteria, established before the interim measures were initiated, for judging the functioning of the interim measures and also for explaining any modification to these criteria;

4. Results of facility monitoring, indicating that the interim measures will meet or exceed the performance criteria; and

5. Explanation of the operation and maintenance (including monitoring) to be undertaken at the facility.

This report shall include the inspection summary reports, inspection data sheets, problem identification and corrective reporting data sheets, design engineers' acceptance reports, deviations from design and material specifications (with justifying documentation), and as-built drawings.

V, F E. Final Interim Measures Report

Respondent shall finalize the Interim Measures Workplan and the Interim Measures Implementation Report incorporating comments received on the draft submissions.

Enclosure II

ADDITIONAL WORK SCOPE OF WORK

PURPOSE

This Scope of Work ("SOW") sets forth the requirements for implementation of the design, construction, operation, maintenance, and monitoring of the performance of the corrective measure or measures pursuant to the Administrative Consent Order ("Consent Order" or "Order"), Docket No. RCRA-3-00IH. The work to be performed under the Order will implement the corrective measure for Quebecor Printing Atglen Incorporated, West Sadsbury, Pennsylvania to protect human health and the environment. The facility will furnish all personnel, materials and services necessary for the implementation of the corrective measure or measures.

SCOPE

The Additional Work Implementation ("AWI") Program consists of five tasks:

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Task I: Additional Work Implementation Work Plan

I A, III C, IV A
II A-B, IV C
I B

- A. Program Management Plan
- B. Sampling and Analysis Plan
- C. Community Relations Plan

Task II: Corrective Measure Design

III A
-
-
III B
III D

- A. Design Plans and Specifications
- B. Sampling and Analysis Plan Revision
- C. Cost Estimate
- D. Operation and Maintenance Plan
- E. Design Phases
  1. Preliminary Design
  2. Final Design

IV B, D

Task III: Corrective Measure Construction

-

Task IV: Corrective Measure Operation and Maintenance

V

Task V: Reports

Further specification of the work outlined in this SOW will be provided in the AWI Work Plan and subsequent plans to be approved by EPA. Variations from the SOW will be made, if necessary, to fulfill the objectives of the Corrective Measure set forth in the Statement of Basis, and any

IM TASKS

amendments thereto.

Additional studies may be needed as part of AWI to supplement the available data. At the direction of EPA for any such studies required, the facility shall furnish all services, including field work, materials, supplies, plant, labor, equipment, investigations, and superintendence. Sufficient sampling, testing and analysis shall be performed to optimize the required treatment and/or disposal operations and systems.

TASK I: AWI WORK PLAN

The facility shall prepare a AWI Work Plan. The AWI Work Plan shall outline the design, construction, operation, maintenance and monitoring of all actions taken to implement the Corrective Measure as defined in the Order and the Statement of Basis and any amendments thereto. The AWI Work Plan will include several plans, which require concurrent preparation. The facility will revise plans as necessary during the performance of the work under this Order.

The Work Plan will include a proposal of work to be performed throughout AWI and include the following:

I A, III C, IV A

A. Program Management Plan

The facility shall prepare a Program Management Plan. Specifically, the Program Management Plan will include:

1. documentation of the overall management strategy for implementing the corrective measure;

2. description of the responsibility and authority of all organizations and key personnel involved with the implementation;

3. description of qualifications of key personnel directing the AWI, including contractor personnel;

4. conceptual design of the treatment and/or disposal system to be installed;

5. an outline of proposed field activities necessary to complete the AWI Design;

6. proposed locations of ground water monitoring wells and a detailed well development plan;

7. proposed discharge options for treated ground water, with a proposed option upon which the CMI Design will be based;

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8. proposed detailed performance criteria for ground water treatment, consistent with those selected in the Statement of Basis and any amendments thereto, and appropriate for the proposed option for discharge of treated water;

9. a description of how the conceptual design is expected to meet the technical requirements of the Statement of Basis; and

10. flow chart and schedule of work to be performed during the AWI.

IIA-B IVC

B. Sampling and Analysis Plan

The facility shall submit a Sampling and Analysis Plan with focus on work to be performed during Corrective Measure Design and comprised of:

1. data quality objectives for Design Phase activities;

2. Quality Assurance Project Plan (QAPP);

3. Field Sampling Plan;

4. a schedule for performance evaluation audits;

5. Data Management Plan.

IB

C. Community Relations Plan (CRP)

The facility shall submit and/or revise the CRP to include significant changes in the level of concern or information needs of the community during design and construction activities. The CRP will be consistent with the EPA "Region III RCRA Corrective Action Community Relations Guide," dated August 1, 1990, and will, at a minimum, include provisions for the following:

1. During the Design Phase, the following specific community relations activities will be conducted:

   a. revision of the facility CRP to reflect citizen concerns and involvement at this stage of the process; and

   b. preparation and distribution of a public notice and an updated fact sheet at the completion of Design Phase.

IM TASKS

2. EPA intends to conduct a public meeting after the design phase is completed.

3. During the Construction Phase, specific community relations activities may range from group meetings to fact sheets on the technical status, as appropriate, to address citizen interest.

TASK II: CORRECTIVE MEASURE DESIGN

The facility shall prepare final construction plans and specifications to implement the corrective measure at the facility as defined in the Corrective Measure set forth in the Statement of Basis and any amendments thereto. The final product of the Corrective Measure Design is a technical package (or packages) that contains or addresses all elements necessary to accomplish the corrective measure. This includes all design support activities, initial permitting and access requirements, operation and maintenance, and institutional controls, as well as technical elements.

III A

A. Design Plans and Specifications

The facility shall develop clear and comprehensive design plans and specifications which include, but are not limited to, the following:

1. Discussion of the design strategy and the design basis, including:

   a. compliance with all applicable or relevant environmental and public health standards,

   b. minimization of adverse environmental and public health impacts, and

   c. updated schedules from commencement through completion of construction, also to be included in Revised Program Management Plan;

2. Discussion of the technical factors of importance including:

   a. use of currently accepted environmental control measures and technology,

   b. constructability of the design, and

   c. use of currently acceptable construction practices and techniques;

IM TASKS

3. Description of assumptions made and detailed justification of these assumptions;

4. Discussion of the possible sources of error and references to possible operation and maintenance problems;

5. Detailed drawings of the proposed design including:

   a. qualitative flow sheets, and

   b. quantitative flow sheets.

6. Tables listing equipment and specifications;

7. Tables giving material and energy balances;

8. Appendices including:

   a. sample calculations (one example presented and explained clearly for significant or unique design calculations)

   b. derivation of equations essential to understanding the report, and

   c. results of laboratory or field tests.

N/A B. Sampling and Analysis Plan Revision

The facility shall update the Sampling and Analysis Plan, including the QAPP, during each phase of Design, as appropriate, to reflect changes in the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; documentation, and other changes to the sampling and analytical program.

N/A C. Cost Estimate

The facility shall develop cost estimates of the corrective measure for the purpose of assuring that the Facility has the financial resources necessary to construct and implement the corrective measure. The cost estimate developed in the Corrective Measure Study shall be refined to reflect the more detailed/accurate design plans and specifications being developed. The cost estimate shall include both capital and operation and maintenance costs.

III B D. Operation and Maintenance (O&M) Plan

The facility shall prepare an O&M Plan to identify the processes to occur, submissions during O&M, and schedule for O&M activities consistent with remedial objectives set forth in the Statement of Basis and any amendments thereto. The plan shall be composed of the following elements:

1. Description of normal O&M:

   a. description of tasks for operation

   b. description of tasks for maintenance

   c. description of prescribed treatment or operation conditions, and

   d. schedule showing frequency of each O&M task, also to be included in the Program Management Plan;

2. Description of potential operating problems:

   a. description and analysis of potential operation problems

   b. sources of information regarding problems, and

   c. common and/or anticipated remedies;

3. Revision of Sampling and Analysis Plan described in Task I.B and Task II.B, including the QAPP, to address the systematic, periodic sampling and analytical program to monitor the progress of the corrective measure over time during operation and maintenance, including:

   a. identification of data quality objectives

   b. description of monitoring tasks

   c. description of required laboratory tests and their interpretation

   d. delineation of quality assurance and quality control practices and procedures to be implemented during the O&M phase, and

   e. schedule of monitoring frequency, also to be included in Program Management Plan;

4. Description of alternate O&M:

IM TASKS

a. should systems fail, alternate procedures to prevent undue hazard, and

b. analysis of vulnerability and additional resource requirements should a failure occur;

5. Operations and Maintenance Manual

a. equipment identification;

b. installation of monitoring components;

c. replacement schedule for equipment and installed components;

d. description of normal operation;

e. description of potential operating problems; and

f. description of alternate O&M.

6. Mechanisms of keeping records and reporting:

a. daily operating logs

b. laboratory records

c. records for operating costs

d. mechanism for reporting emergencies

e. personnel and maintenance records

f. contents of periodic progress reports described in Task V.A and providing details on how Task V.A requirements will be met

g. monthly/annual reports to State agencies.

III D E. Design Phases

The design of the corrective measure should include the phases outlined below:

1. Preliminary (50 Percent) Design

a. The facility shall submit the Preliminary Design Report when the design effort is approximately 50 percent complete. At this stage the facility shall have field verified the existing conditions of the facility. The

preliminary design shall reflect a level of effort such that the specifications may be reviewed to determine if the final design will provide an effective, operable and usable corrective measure. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program. Preliminary construction drawings shall reflect organization and clarity. The facility shall include with the preliminary submission design calculations reflecting the same percentage of completion as the designs they support.

b. Correlating plans and specifications. The project specifications to be included in the 50 Percent Corrective Measure Design Report shall demonstrate that the facility has:

i. coordinated and cross-checked the specifications and drawings

ii. completed the proofing of the edited specifications and required cross-checking of all drawings and specifications.

c. Equipment start-up and operator training

As part of the draft C&M Plan to be included with the 50 Percent Corrective Measure Design Report, the facility shall include, in the technical specifications governing treatment and/or disposal systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, startup and operation of the treatment and/or disposal systems, and training covering appropriate operational procedures once the startup has been successfully accomplished.

2. Final (90 and 100 Percent) Design

The facility shall execute the required revisions and submit the final documents as draft Final (90 percent complete) and Final (100 percent complete) with reproducible drawings and specifications. The quality of the final design documents should be such that the facility would be able to include them in a bid package and invite contractors to

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submit bids for the construction project.

TASK III: CORRECTIVE MEASURE CONSTRUCTION

Following EPA approval of the Final Design Report, the facility shall implement construction in accordance with procedures, specifications, and schedules in the EPA-approved Final Design Report and AWI Work Plan. During the Construction Phase, facility shall continue to submit periodic progress reports. The facility shall also implement the elements of the approved O&M Plan.

The facility shall update the Sampling and Analysis Plan, including the QAPP, during the Construction Phase, as appropriate, to reflect changes in the following: responsibility and authority, personnel qualifications, construction quality assurance, inspection activities, documentation, and other changes affecting quality assurance.

The facility shall conduct the following activities during construction:

IV.B A. Preconstruction inspection and meeting

The facility shall conduct a preconstruction inspection and meeting to:

1. Review methods for documenting and reporting inspection data;

2. Review methods for distributing and storing documents and reports;

3. Review work area security and safety protocol;

4. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and

5. Conduct a site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection and meeting shall be documented by a designated person and minutes will be transmitted to all parties.

IV B B. Inspections

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The facility will conduct inspections to monitor the construction and/or installation of components of the corrective measure. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, review of air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. Inspections will also ensure compliance with all health and safety procedures. Treatment and/or disposal equipment will be operationally tested by the facility. The facility will certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed.

IV D

C. AWI Report

Upon completion of construction and in accordance with the schedule included in the Program Management Plan, facility will prepare and submit a AWI Report.

N/A

TASK IV: CORRECTIVE MEASURE OPERATION AND MAINTENANCE

The facility will continue to operate and maintain, monitor and report on the corrective measure in accordance with the O&M Plan. O&M shall also include periodic reevaluation of the Media Protection Standards and Enhanced Remediation Goals in Biannual O&M Evaluation Reports.

TASK V: REPORTS

The facility shall prepare plans, specifications, and reports as set forth in Tasks I through III to document the design, construction, operation, maintenance, and monitoring of the corrective measure. The documentation shall include, but not be limited to the following:

V A

A. Quarterly Progress Reports

The facility shall at a minimum provide the EPA with signed, quarterly progress reports containing:

1. A description of work performed during the preceding monitoring interval and estimate of the percentage of the AWI completed;

2. Summaries of all findings;

3. Summaries of all changes made in the AWI during the reporting period;

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4. Summaries of all contacts with representative of the local community, public interest groups, or State government during the reporting period;

5. General assessment of system performance during the reporting period including a summary of all problems or potential problems encountered or anticipated in carrying out the terms of this Order;

6. Actions being taken to rectify problems;

7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and

9. Results of sampling and tests, analytical data, and all other information and interpretations of such information, including results, data, and other information not meeting QA/QC standards gathered by facility during the reporting period.

IX B B. AWI Work Plan

The Facility shall submit draft and final AWI Work Plans as outlined in Task I. The QAPP, included with the AWI Work Plan, will be revised, as appropriate, throughout AWI.

N/A C. 50 Percent Corrective Measure Design Report

The 50 Percent Corrective Measure Design Report shall include:

1. draft Design Plans and Specifications reflecting 50 percent of design work to be completed;

2. a draft Operation and Maintenance Plan;

3. a preliminary cost estimate;

4. a revised project schedule, also to be included in a revised AWI Program Management Plan.

N/A D. 90 Percent Corrective Measure Design Report

The 90 Percent Corrective Measure Design Report shall include:

1. a summary of activities performed and data generated during Corrective Measure Design,

including results and interpretation of treatability studies;

2. draft detailed Corrective Measure Design Plans and Specifications reflecting 90 percent of design work to be completed;

3. final performance criteria for the corrective measures, consistent with comments to have been provided by EPA on the Conceptual Design proposed in the Program Management Plan;

4. proposal of means to evaluate system performance against the Media Protection Standards and Enhanced Remediation Goals listed in the Statement of Basis and any amendments thereto;

5. a Final Operation and Maintenance Plan;

6. a revised Cost Estimate;

7. revision to the Sampling and Analysis Plan, including the QAPP, to address sampling activities to be performed during the Corrective Measure Construction Phase, including the sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for correcting problems as addressed in the project specifications;

8. revision to the Sampling and Analysis Plan, including the QAPP, to address construction activities to be performed to ensure that the completed corrective measure meets or exceeds all design criteria, plans, and specifications. The revision to the Sampling and Analysis Plan will include, but may not be limited to:

   a. an outline of the responsibility and authority of all organizations (i.e., technical consultants, construction firms, etc.) and key personnel involved in the construction of the corrective measure

   b. identification and qualifications of the Quality Assurance officer and the necessary supporting inspection staff to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities

   c. observations and tests that will be used to

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monitor the construction and/or installation of the components of the corrective measure

d. scope and frequency of each type of inspection

e. reporting requirements for quality assurance and quality control activities, including daily summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation

f. provisions for the final storage of all records;

9. proposed changes to the Project Schedule, if appropriate, with emphasis on short-term Construction schedule. These proposed changes in schedule also will be included in a revised Program Management Plan.

V C E. Final (100 Percent) Corrective Measure Design Report

The facility shall submit a Final, 100 Percent Corrective Measure Design Report as outlined in Task II to this SOW.

V D,E F. AWI Report

The AWI Report shall describe activities performed during construction, provide actual specifications of implemented remedy, and provide a preliminary assessment of AWI performance.

The AWI Report shall include, but not be limited to, the following elements:

1. synopsis of the corrective measure;

2. explanation of any modifications to the EPA-approved construction and/or design plans and why these were necessary for the project;

3. listing of the criteria, established in EPA-approved Design Report, for judging whether the corrective measure is functioning properly, and also explaining any modification to these criteria;

4. certification by registered professional engineer that the construction is complete, consistent with

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contract documents, and the EPA-approved corrective measure, and that the equipment performs to meet the intent of the specifications.

5. results of facility monitoring, indicating whether the Corrective Measure will meet or exceed the Media Protection Standards and Enhanced Remediation Goals forth in the Statement of Basis and any amendments thereto.

6. detail of contents to be included in the Biannual O&M Assessment Reports, in conformance with the items listed in Section V.G of this SOW.

N/A G. Biannual O&M Assessment Reports

Biannual O&M Assessment Reports shall document assessment of performance of the corrective measure over time and provide one basis for EPA's evaluation of the corrective measure. Biannual O&M Assessment Reports shall include but may not be limited to:

1. summarized data representing corrective measure performance during respective two-year intervals;

2. any proposed changes to the corrective measure and summary of changes previously made;

3. isoconcentration maps for ground water and soils, identifying concentrations of each contaminant of concern listed in the Order;

4. isoconcentration maps for ground water and soils, illustrating the concentration of total volatile organic compounds (VOCs);

5. statistical assessment of the progress of the corrective measure towards achievement of Media Protection Standards and Enhanced Remediation Goals;

6. when appropriate, notification that Media Protection Standards and Enhanced Remediation Goals have been achieved.

Details of the components of the Biannual O&M Assessment Report shall be described in the AWI Report. The first Biannual O&M Assessment Report is due to EPA 24 months after the facility receives approval from EPA of the AWI Report. Ensuing O&M Biannual Assessment Reports shall be submitted every two years thereafter.

Enclosure II

ADDITIONAL WORK
SCOPE OF WORK

PURPOSE

This Scope of Work ("SOW") sets forth the requirements for implementation of the design, construction, operation, maintenance, and monitoring of the performance of the corrective measure or measures pursuant to the Administrative Consent Order ("Consent Order" or "Order"), Docket No. RCRA-3-00IH. The work to be performed under the Order will implement the corrective measure for Quebecor Printing Atglen Incorporated, West Sadsbury, Pennsylvania to protect human health and the environment. The facility will furnish all personnel, materials and services necessary for the implementation of the corrective measure or measures.

SCOPE

The Additional Work Implementation ("AWI") Program consists of five tasks:

Task I: Additional Work Implementation Work Plan

- A. Program Management Plan
- B. Sampling and Analysis Plan
- C. Community Relations Plan

Task II: Corrective Measure Design

- A. Design Plans and Specifications
- B. Sampling and Analysis Plan Revision
- C. Cost Estimate
- D. Operation and Maintenance Plan
- E. Design Phases
  1. Preliminary Design
  2. Final Design

Task III: Corrective Measure Construction

Task IV: Corrective Measure Operation and Maintenance

Task V: Reports

Further specification of the work outlined in this SOW will be provided in the AWI Work Plan and subsequent plans to be approved by EPA. Variations from the SOW will be made, if necessary, to fulfill the objectives of the Corrective Measure set forth in the Statement of Basis, and any

amendments thereto.

Additional studies may be needed as part of AWI to supplement the available data. At the direction of EPA for any such studies required, the facility shall furnish all services, including field work, materials, supplies, plant, labor, equipment, investigations, and superintendence. Sufficient sampling, testing and analysis shall be performed to optimize the required treatment and/or disposal operations and systems.

TASK I: AWI WORK PLAN

The facility shall prepare a AWI Work Plan. The AWI Work Plan shall outline the design, construction, operation, maintenance and monitoring of all actions taken to implement the Corrective Measure as defined in the Order and the Statement of Basis and any amendments thereto. The AWI Work Plan will include several plans, which require concurrent preparation. The facility will revise plans as necessary during the performance of the work under this Order.

The Work Plan will include a proposal of work to be performed throughout AWI and include the following:

A. Program Management Plan

The facility shall prepare a Program Management Plan. Specifically, the Program Management Plan will include:

1. documentation of the overall management strategy for implementing the corrective measure;

2. description of the responsibility and authority of all organizations and key personnel involved with the implementation;

3. description of qualifications of key personnel directing the AWI, including contractor personnel;

4. conceptual design of the treatment and/or disposal system to be installed;

5. an outline of proposed field activities necessary to complete the AWI Design;

6. proposed locations of ground water monitoring wells and a detailed well development plan;

7. proposed discharge options for treated ground water, with a proposed option upon which the CMI Design will be based;

8. proposed detailed performance criteria for ground water treatment, consistent with those selected in the Statement of Basis and any amendments thereto, and appropriate for the proposed option for discharge of treated water;

9. a description of how the conceptual design is expected to meet the technical requirements of the Statement of Basis; and

10. flow chart and schedule of work to be performed during the AWI.

B. Sampling and Analysis Plan

The facility shall submit a Sampling and Analysis Plan with focus on work to be performed during Corrective Measure Design and comprised of:

1. data quality objectives for Design Phase activities;

2. Quality Assurance Project Plan (QAPP);

3. Field Sampling Plan;

4. a schedule for performance evaluation audits;

5. Data Management Plan.

C. Community Relations Plan (CRP)

The facility shall submit and/or revise the CRP to include significant changes in the level of concern or information needs of the community during design and construction activities. The CRP will be consistent with the EPA "Region III RCRA Corrective Action Community Relations Guide," dated August 1, 1990, and will, at a minimum, include provisions for the following:

1. During the Design Phase, the following specific community relations activities will be conducted:

   a. revision of the facility CRP to reflect citizen concerns and involvement at this stage of the process; and

   b. preparation and distribution of a public notice and an updated fact sheet at the completion of Design Phase.

2. EPA intends to conduct a public meeting after the design phase is completed.

3. During the Construction Phase, specific community relations activities may range from group meetings to fact sheets on the technical status, as appropriate, to address citizen interest.

TASK II: CORRECTIVE MEASURE DESIGN

The facility shall prepare final construction plans and specifications to implement the corrective measure at the facility as defined in the Corrective Measure set forth in the Statement of Basis and any amendments thereto. The final product of the Corrective Measure Design is a technical package (or packages) that contains or addresses all elements necessary to accomplish the corrective measure. This includes all design support activities, initial permitting and access requirements, operation and maintenance, and institutional controls, as well as technical elements.

A. Design Plans and Specifications

The facility shall develop clear and comprehensive design plans and specifications which include, but are not limited to, the following:

1. Discussion of the design strategy and the design basis, including:

   a. compliance with all applicable or relevant environmental and public health standards,

   b. minimization of adverse environmental and public health impacts, and

   c. updated schedules from commencement through completion of construction, also to be included in Revised Program Management Plan;

2. Discussion of the technical factors of importance including:

   a. use of currently accepted environmental control measures and technology,

   b. constructability of the design, and

   c. use of currently acceptable construction practices and techniques;

3. Description of assumptions made and detailed justification of these assumptions;

4. Discussion of the possible sources of error and references to possible operation and maintenance problems;

5. Detailed drawings of the proposed design including:

   a. qualitative flow sheets, and

   b. quantitative flow sheets.

6. Tables listing equipment and specifications;

7. Tables giving material and energy balances;

8. Appendices including:

   a. sample calculations (one example presented and explained clearly for significant or unique design calculations)

   b. derivation of equations essential to understanding the report, and

   c. results of laboratory or field tests.

B. Sampling and Analysis Plan Revision

The facility shall update the Sampling and Analysis Plan, including the QAPP, during each phase of Design, as appropriate, to reflect changes in the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; documentation, and other changes to the sampling and analytical program.

C. Cost Estimate

The facility shall develop cost estimates of the corrective measure for the purpose of assuring that the Facility has the financial resources necessary to construct and implement the corrective measure. The cost estimate developed in the Corrective Measure Study shall be refined to reflect the more detailed/accurate design plans and specifications being developed. The cost estimate shall include both capital and operation and maintenance costs.

D. Operation and Maintenance (O&M) Plan

The facility shall prepare an O&M Plan to identify the processes to occur, submissions during O&M, and schedule for O&M activities consistent with remedial objectives set forth in the Statement of Basis and any amendments thereto. The plan shall be composed of the following elements:

1. Description of normal O&M:

    a. description of tasks for operation

    b. description of tasks for maintenance

    c. description of prescribed treatment or operation conditions, and

    d. schedule showing frequency of each O&M task, also to be included in the Program Management Plan;

2. Description of potential operating problems:

    a. description and analysis of potential operation problems

    b. sources of information regarding problems, and

    c. common and/or anticipated remedies;

3. Revision of Sampling and Analysis Plan described in Task I.B and Task II.B, including the QAPP, to address the systematic, periodic sampling and analytical program to monitor the progress of the corrective measure over time during operation and maintenance, including:

    a. identification of data quality objectives

    b. description of monitoring tasks

    c. description of required laboratory tests and their interpretation

    d. delineation of quality assurance and quality control practices and procedures to be implemented during the O&M phase, and

    e. schedule of monitoring frequency, also to be included in Program Management Plan;

4. Description of alternate O&M:

a. should systems fail, alternate procedures to prevent undue hazard, and

b. analysis of vulnerability and additional resource requirements should a failure occur;

5. Operations and Maintenance Manual

a. equipment identification;

b. installation of monitoring components;

c. replacement schedule for equipment and installed components;

d. description of normal operation;

e. description of potential operating problems; and

f. description of alternate O&M.

6. Mechanisms of keeping records and reporting:

a. daily operating logs

b. laboratory records

c. records for operating costs

d. mechanism for reporting emergencies

e. personnel and maintenance records

f. contents of periodic progress reports described in Task V.A and providing details on how Task V.A requirements will be met

g. monthly/annual reports to State agencies.

E. Design Phases

The design of the corrective measure should include the phases outlined below:

1. Preliminary (50 Percent) Design

a. The facility shall submit the Preliminary Design Report when the design effort is approximately 50 percent complete. At this stage the facility shall have field verified the existing conditions of the facility. The

preliminary design shall reflect a level of effort such that the specifications may be reviewed to determine if the final design will provide an effective, operable and usable corrective measure. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program. Preliminary construction drawings shall reflect organization and clarity. The facility shall include with the preliminary submission design calculations reflecting the same percentage of completion as the designs they support.

b. Correlating plans and specifications. The project specifications to be included in the 50 Percent Corrective Measure Design Report shall demonstrate that the facility has:

   i. coordinated and cross-checked the specifications and drawings

   ii. completed the proofing of the edited specifications and required cross-checking of all drawings and specifications.

c. Equipment start-up and operator training

   As part of the draft O&M Plan to be included with the 50 Percent Corrective Measure Design Report, the facility shall include, in the technical specifications governing treatment and/or disposal systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, startup and operation of the treatment and/or disposal systems, and training covering appropriate operational procedures once the startup has been successfully accomplished.

2. Final (90 and 100 Percent) Design

The facility shall execute the required revisions and submit the final documents as draft Final (90 percent complete) and Final (100 percent complete) with reproducible drawings and specifications. The quality of the final design documents should be such that the facility would be able to include them in a bid package and invite contractors to

submit bids for the construction project.

TASK III: CORRECTIVE MEASURE CONSTRUCTION

Following EPA approval of the Final Design Report, the facility shall implement construction in accordance with procedures, specifications, and schedules in the EPA-approved Final Design Report and AWI Work Plan. During the Construction Phase, facility shall continue to submit periodic progress reports. The facility shall also implement the elements of the approved O&M Plan.

The facility shall update the Sampling and Analysis Plan, including the QAPP, during the Construction Phase, as appropriate, to reflect changes in the following: responsibility and authority, personnel qualifications, construction quality assurance, inspection activities, documentation, and other changes affecting quality assurance.

The facility shall conduct the following activities during construction:

A. Preconstruction inspection and meeting

The facility shall conduct a preconstruction inspection and meeting to:

1. Review methods for documenting and reporting inspection data;

2. Review methods for distributing and storing documents and reports;

3. Review work area security and safety protocol;

4. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and

5. Conduct a site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection and meeting shall be documented by a designated person and minutes will be transmitted to all parties.

B. Inspections

The facility will conduct inspections to monitor the construction and/or installation of components of the corrective measure. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, review of air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. Inspections will also ensure compliance with all health and safety procedures. Treatment and/or disposal equipment will be operationally tested by the facility. The facility will certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed.

C. AWI Report

Upon completion of construction and in accordance with the schedule included in the Program Management Plan, facility will prepare and submit a AWI Report.

TASK IV: CORRECTIVE MEASURE OPERATION AND MAINTENANCE

The facility will continue to operate and maintain, monitor and report on the corrective measure in accordance with the O&M Plan. O&M shall also include periodic reevaluation of the Media Protection Standards and Enhanced Remediation Goals in Biannual O&M Evaluation Reports.

TASK V: REPORTS

The facility shall prepare plans, specifications, and reports as set forth in Tasks I through III to document the design, construction, operation, maintenance, and monitoring of the corrective measure. The documentation shall include, but not be limited to the following:

A. Quarterly Progress Reports

The facility shall at a minimum provide the EPA with signed, quarterly progress reports containing:

1. A description of work performed during the preceding monitoring interval and estimate of the percentage of the AWI completed;

2. Summaries of all findings;

3. Summaries of all changes made in the AWI during the reporting period;

4. Summaries of all contacts with representative of the local community, public interest groups, or State government during the reporting period;

5. General assessment of system performance during the reporting period including a summary of all problems or potential problems encountered or anticipated in carrying out the terms of this Order;

6. Actions being taken to rectify problems;

7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and

9. Results of sampling and tests, analytical data, and all other information and interpretations of such information, including results, data, and other information not meeting QA/QC standards gathered by facility during the reporting period.

B. AWI Work Plan

The Facility shall submit draft and final AWI Work Plans as outlined in Task I. The QAPP, included with the AWI Work Plan, will be revised, as appropriate, throughout AWI.

C. 50 Percent Corrective Measure Design Report

The 50 Percent Corrective Measure Design Report shall include:

1. draft Design Plans and Specifications reflecting 50 percent of design work to be completed;

2. a draft Operation and Maintenance Plan;

3. a preliminary cost estimate;

4. a revised project schedule, also to be included in a revised AWI Program Management Plan.

D. 90 Percent Corrective Measure Design Report

The 90 Percent Corrective Measure Design Report shall include:

1. a summary of activities performed and data generated during Corrective Measure Design,

including results and interpretation of treatability studies;

2. draft detailed Corrective Measure Design Plans and Specifications reflecting 90 percent of design work to be completed;

3. final performance criteria for the corrective measures, consistent with comments to have been provided by EPA on the Conceptual Design proposed in the Program Management Plan;

4. proposal of means to evaluate system performance against the Media Protection Standards and Enhanced Remediation Goals listed in the Statement of Basis and any amendments thereto;

5. a Final Operation and Maintenance Plan;

6. a revised Cost Estimate;

7. revision to the Sampling and Analysis Plan, including the QAPP, to address sampling activities to be performed during the Corrective Measure Construction Phase, including the sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for correcting problems as addressed in the project specifications;

8. revision to the Sampling and Analysis Plan, including the QAPP, to address construction activities to be performed to ensure that the completed corrective measure meets or exceeds all design criteria, plans, and specifications. The revision to the Sampling and Analysis Plan will include, but may not be limited to:

   a. an outline of the responsibility and authority of all organizations (i.e., technical consultants, construction firms, etc.) and key personnel involved in the construction of the corrective measure

   b. identification and qualifications of the Quality Assurance officer and the necessary supporting inspection staff to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities

   c. observations and tests that will be used to

monitor the construction and/or installation of the components of the corrective measure

d. scope and frequency of each type of inspection

e. reporting requirements for quality assurance and quality control activities, including daily summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation

f. provisions for the final storage of all records;

9. proposed changes to the Project Schedule, if appropriate, with emphasis on short-term Construction schedule. These proposed changes in schedule also will be included in a revised Program Management Plan.

E. Final (100 Percent) Corrective Measure Design Report

The facility shall submit a Final, 100 Percent Corrective Measure Design Report as outlined in Task II to this SOW.

F. AWI Report

The AWI Report shall describe activities performed during construction, provide actual specifications of implemented remedy, and provide a preliminary assessment of AWI performance.

The AWI Report shall include, but not be limited to, the following elements:

1. synopsis of the corrective measure;

2. explanation of any modifications to the EPA-approved construction and/or design plans and why these were necessary for the project;

3. listing of the criteria, established in EPA-approved Design Report, for judging whether the corrective measure is functioning properly, and also explaining any modification to these criteria;

4. certification by registered professional engineer that the construction is complete, consistent with

contract documents, and the EPA-approved corrective measure, and that the equipment performs to meet the intent of the specifications.

5. results of facility monitoring, indicating whether the Corrective Measure will meet or exceed the Media Protection Standards and Enhanced Remediation Goals forth in the Statement of Basis and any amendments thereto.

6. detail of contents to be included in the Biannual O&M Assessment Reports, in conformance with the items listed in Section V.G of this SOW.

G. Biannual O&M Assessment Reports

Biannual O&M Assessment Reports shall document assessment of performance of the corrective measure over time and provide one basis for EPA's evaluation of the corrective measure. Biannual O&M Assessment Reports shall include but may not be limited to:

1. summarized data representing corrective measure performance during respective two-year intervals;

2. any proposed changes to the corrective measure and summary of changes previously made;

3. isoconcentration maps for ground water and soils, identifying concentrations of each contaminant of concern listed in the Order;

4. isoconcentration maps for ground water and soils, illustrating the concentration of total volatile organic compounds (VOCs);

5. statistical assessment of the progress of the corrective measure towards achievement of Media Protection Standards and Enhanced Remediation Goals;

6. when appropriate, notification that Media Protection Standards and Enhanced Remediation Goals have been achieved.

Details of the components of the Biannual O&M Assessment Report shall be described in the AWI Report. The first Biannual O&M Assessment Report is due to EPA 24 months after the facility receives approval from EPA of the AWI Report. Ensuing O&M Biannual Assessment Reports shall be submitted every two years thereafter.